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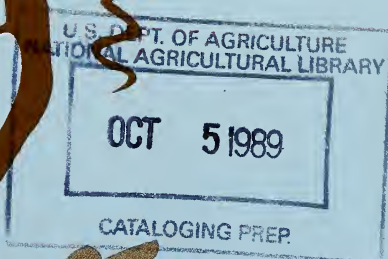
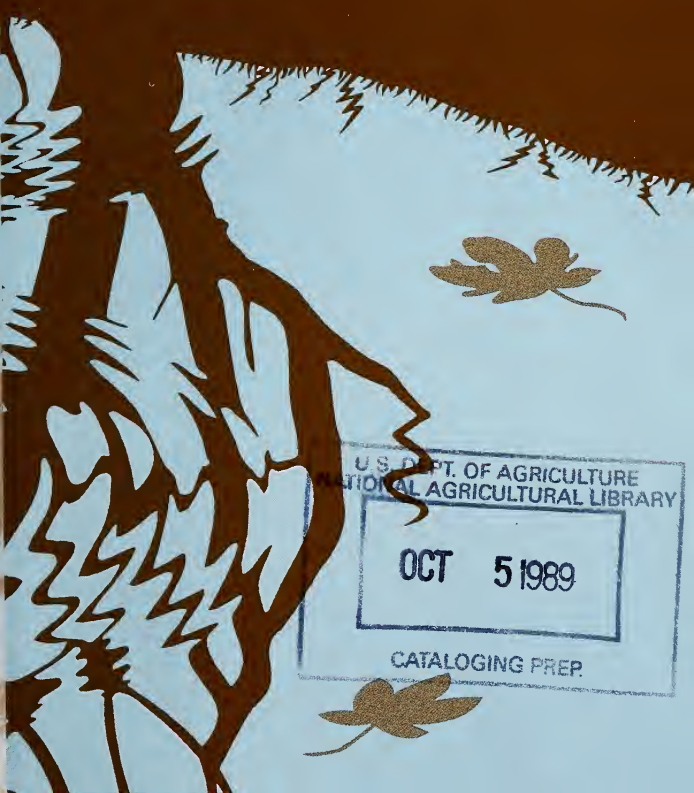
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Extension Services

Endangered Water Supply



The Cooperative Extension
System's Challenge





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It is crucial to our health, our industry, our commerce, and our agriculture. As a society, we are utterly dependent on it. Yet from across the country come the warning signs of an urgent national dilemma—signs that we are shortsightedly endangering this, the most critical of our resources. Consider the following:

- We are depleting our reserves of groundwater. Agriculture alone uses nearly 88 billion gallons daily. Such depletion of aquifers in irrigated areas is increasing our communities' vulnerability to drought.
- We are polluting our groundwater, the sole source of drinking water for 95 percent of all rural households and 50 percent of all urban residents. This pollution cuts across state boundaries: In Florida, officials have shut down 1,000 wells because of pesticide contamination. In California, scientists have discovered toxic chemicals in nearly 25 percent of the state's largest public water systems. Nationwide, potentially millions of pounds of agricultural, household, and industrial chemicals contaminate our groundwater and our surface water supplies. Thirty-four of our states implicate agriculture as a major contributor to this contamination.
- The Nation's 20 million septic tanks are discharging bacteria and viruses daily. Almost 40 percent of America's well water does not meet public safety standards for bacterial contamination.
- Dumped garbage and industrial waste—an often toxic combination—are leaching out of many of the Nation's 181,000 municipal landfills and into our groundwater.

What are our choices? How can we guarantee the safety and availability of America's water? New penalties and regulations governing water usage and contamination are one possibility. But the enforcement of these regulations would require a major investment of public funds at a time when those funds are scarce.

Voluntary control would be far less costly—and more productive. No attempt to protect our water supply will be successful in the long run without the commitment of Americans from every state and community: the homeowner who pours household chemicals down the

drain, the farmer who mismanages agricultural chemicals, the official who shapes water policy.

Mobilizing that mass support will take extensive public education, education that forcefully drives home this message: **Adopting environmentally sound habits, technologies, and sensitivities is in every American's best interest.**

Extension's Educational Expertise

Which person or organization is best suited to conduct an educational campaign of such magnitude? America's Cooperative Extension System, a nationwide network of educators serving in the public interest. Among its many unique qualifications:

First, Extension educators work out of land-grant universities in every state and territory and in most of our 3,150 counties. This dispersed delivery system allows staff to anticipate state and local problems and tailor their educational programs to solve them. Local credibility is critical to any successful educational campaign, but especially one to improve water quality. The reason: Contaminants and conditions vary greatly, even among nearby communities.

Second, Extension's local advantage generates grassroots support—particularly in attracting volunteers. Educators regularly involve local citizens in problem identification and prevention. With Extension's guidance, citizens everywhere are active participants in positive change.

Third, Extension's educational network is already firmly in place. In fact, this partnership of federal, state, and local governments has a 75-year history of helping Americans successfully confront national needs, from advancing agriculture to improving health. In addition:

- Extension links the Nation's storehouse of science and technology to Americans where they live and work. Staff integrate research results from private and public organizations and fuse them into formal, problem-solving educational programs.
- The organizations that Extension staff draw on most heavily for scientific expertise are already conducting vital research on water quality, agricultural chemicals, sediment control, and natural resources. These organizations include: USDA's Agricultural Research

Service, the Environmental Protection Agency, state experiment stations and land-grant universities, and state departments of health and natural resources. Extension's link to pioneering research on agriculture-related water contamination problems rivals that of any agency or institution.

- Extension's primary clients are producers, their multiple partners in agribusiness, and America's 63 million rural residents. These clients are major potential polluters of our water. But they are also especially vulnerable to a contaminated water supply: producers, because their very livelihood depends on usable water; rural Americans, because their drinking water is seldom tested. Extension's longstanding credibility with these clients is an important catalyst for change.
- Extension educators regularly reach out to urban families and decisionmakers. Again, the System's close ties with ordinary citizens and leaders in government and industry is an asset few other champions of a safe water supply can claim.

Catalyst For Change

The Extension System has already begun the pressing national task of safeguarding our water.

Through educational programs, people are learning to help protect America's lakes, streams, rivers, estuaries, and groundwater. For instance:

Since the early 1970's Extension's Integrated Pest Management (IPM) programs have replaced the indiscriminate spraying of pesticides and herbicides with biological controls, careful monitoring of pest populations, and the well-timed, precise application of agricultural chemicals. With Extension guidance, farmers, landscapers, nursery operators, and homeowners from every state have adopted IPM and minimized chemical runoff into our water.

Extension educators have also:

- Trained more than 1.5 million chemical applicators in the environmentally safest application and disposal of restricted-use pesticides.

- Tested 3 million soil samples annually. America's farmers, homeowners, and gardeners use Extension's soil testing service to avoid the unnecessary application of agricultural chemicals and fertilizers.
- Helped public officials understand the relationship between water quality and local land use and develop effective community strategies to protect water resources.
- Worked with private industry and volunteers in an unprecedented effort to keep our drinking water safe. The result: Americans nationwide have started to safely dispose of household chemicals, repair poorly constructed wells and septic tanks, and recycle trash.
- Alerted citizens to the health effects of contaminants in drinking water and informed them of the most accurate methods and interpretation of water testing.

But these efforts are only one small part of Extension's drive to stop the degradation of America's water. In Nebraska, Extension education on irrigation scheduling saved 1.5 million acre-feet of water in 1 year.

In Texas, Extension programming helped cotton farmers slash irrigation by 50 percent without reducing crop yields. Texas homeowners also turned to Extension to reduce lawn irrigation and home water use.

Extension educators have also:

- Joined together in a multistate effort to help farmers, other citizens, and community officials halt the deterioration of the Nation's largest estuary, the Chesapeake Bay. This is just one example of several pioneering regional campaigns to improve water quality.
- Started special 4-H youth camps on water use and contamination to sensitize the next generation of Americans to the need for an unpolluted water supply.
- Created a statewide water task force in California. The task force, one of many nationwide, brings together traditionally opposing organizations to explore the common challenge of water protection.

- Spurred food processors to revise procedures and reduce the discharge of waste into municipal water systems. One North Carolina business cut weekly processing wastes by 50 tons.

By any standards, these are diverse accomplishments. And Extension has achieved them with limited resources.

Long-Term Challenge

Critical challenges remain: Many more Americans must be made aware of the vulnerability of our water resources and the options we have to preserve them.

Farmers, families, businesses, and employees must understand the crucial connection between their everyday actions and the quality and availability of our water. And, public officials must craft prudent, progressive policies to protect water resources.

With the support of our Nation's leadership, the Cooperative Extension System has started—and should continue—to confront the challenges of ensuring a healthy water supply for the Nation and its citizens.



The Cooperative Extension System's programs are open to all citizens without regard to race, color, sex, handicap, religion, age, or national origin.

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